

IN THE CLAIMS:

1. (Currently Amended) A method ~~for determining a reference level for automatic gain control of a radio frequency signal to be received, the radio frequency signal having a varying signal strength, the method comprising:~~

receiving frames of a logical general packet control channel of a radio frequency signal having a varying signal strength as well as frames which have been (transmitted with a predetermined transmission power level and by using a predetermined way of controlling the transmission power level,

determining ~~said~~ a reference level for automatic gain control of said signal on the basis of at least one frame of a received radio block, or on the basis of at least one frame of preceding radio blocks, or on the basis of both of these, and correcting the reference level on the basis of the signal strength measured during the reception of said at least one frame,

correcting the reference level by calculating a running average of the reference level with respect to time, and

calculating the running average by using a predetermined number of said at least one frames as a forgetting factor.

2. (Cancelled)

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3. (Previously Presented) A method according to claim 1, the method further comprising:

calculating the running average by using filtering with a varying length.

4. (Cancelled)

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5. (Previously Presented) A method according to claim 1, the method further comprising:

selecting, for determining the reference level, one or more frames immediately preceding the received radio block.

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6. (Previously Presented) A method according to claim 1, the method further comprising:

selecting, for determining the reference level, one or more frames of the received radio block.

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~~7.~~ (Previously Presented) A method according to claim ~~5~~³, the method further comprising:

calculating the reference level as a weighted or unweighted average of the signal strength of several frames.

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~~8.~~ (Previously Presented) A method according to claim 1, the method further comprising:

determining the signal strength by using samples measured from the radio frequency signal.

9. (Cancelled)

10. (Cancelled)

11. (Cancelled)

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~~12.~~ (Previously Presented) A method according to claim 1, wherein said logical general packet control channel is the packet common control channel of the general packet radio service network.

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~~13.~~ (Previously Presented) A method according to claim 1, wherein said predetermined way is constant power control used by the general packet radio service network in downlink data transmission, power control according to mode A, or power control according to mode B.

14. (Currently Amended) A device ~~for determining a reference level for automatic gain control of a radio frequency signal to be received, the radio frequency signal having a varying strength, the device comprising:~~

means for receiving frames of a radio block of a logical general packet control channel of a radio frequency signal having a varying signal strength as well as frames preceding said radio block, which have been transmitted with a

predetermined transmission power level and by using a predetermined way of controlling the transmission power level,

means for determining the reference level for automatic gain control of said signal on the basis of at least one frame of a received radio block, or on the basis of at least one frame of preceding radio blocks, or on the basis of both of these, the device being configured to correct the reference level on the basis of the signal strength measured during the reception of said at least one frame, to correct the reference level by calculating a running average of the reference level with respect to time, and to calculate the running average by using a predetermined number of said at least one frames as a forgetting factor.

15. (Cancelled)

16. (Cancelled)

~~17.~~¹⁵ (Previously Presented) A device according to claim 14, wherein said device is a wireless communication unit operating in the general packet radio service network.

18. (Cancelled)

~~19.~~⁶ (Previously Presented) A method according to claim ~~5~~⁵, the method further comprising:

calculating the reference level as a weighted or unweighted average of the signal strength of several frames.

20. (Cancelled)

~~21.~~¹⁰ (Previously Presented) A method according to claim 1, the method further comprising:

selecting, for determining the reference level, one or more frames immediately preceding the received radio block.

22. (Cancelled)

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~~23.~~ (Previously Presented) A method according to claim ~~21~~¹⁰, the method further comprising:
calculating the reference level as a weighted or unweighted average of the signal strength of several frames.

24. (Cancelled)

25. (Cancelled)

~~18~~
~~26.~~ (Currently Amended) ~~A device according to claim 25~~ A device, comprising:
means for receiving frames of a radio block of a logical general packet control channel of a radio frequency signal having a varying signal strength as well as frames preceding said radio block, which have been transmitted with a predetermined transmission power level and by using a predetermined way of controlling the transmission power level, wherein the device is a wireless communication unit arranged to receive said radio block and said frames transmitted by a base transceiver station of a packet switched communication network based on a cellular system, and
means for determining a reference level for automatic gain control of said signal on the basis of at least one frame of a immediately preceding the received radio block, or on the basis of at least one frame preceding the received radio block, or on the basis of both of these, the device being configured to correct the reference level on the basis of the signal strength measured during the reception of said frames, wherein the device is configured to calculate the reference level as a weighted or unweighted average of the signal strength of several frames.

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~~27.~~ (Currently Amended) ~~A device according to claim 25~~ A device, comprising:
means for receiving frames of a radio block of a logical general packet control channel of a radio frequency signal having a varying signal strength as well as frames preceding said radio block, which have been transmitted with a predetermined transmission power level and by using a predetermined way of controlling the transmission power level, wherein the device is a wireless communication unit arranged to receive said radio block and said frames transmitted

by a base transceiver station of a packet switched communication network based on a cellular system, and

means for determining a reference level for automatic gain control of said signal on the basis of at least one frame of a immediately preceding the received radio block, or on the basis of at least one frame preceding the received radio block, or on the basis of both of these, the device being configured to correct the reference level on the basis of the signal strength measured during the reception of said frames, wherein the device is configured to calculate the running average by using filtering with a varying length.

28. (Cancelled)

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29. (Currently Amended) ~~A method according to claim 28~~ A method comprising:
receiving frames of a logical general packet control channel of a radio frequency signal having a varying signal strength as well as frames which have been transmitted with a predetermined transmission power level and by using a predetermined way of controlling the transmission power level, and
determining a reference level for automatic gain control of said signal on the basis of at least one frame immediately preceding a received radio block, and correcting the reference level on the basis of the signal strength measured during the reception of said at least one frame, the method further comprising:

calculating the reference level as a weighted or unweighted average of the signal strength of several frames.

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30. (Currently Amended) ~~A method according to claim 28~~ comprising:
receiving frames of a logical general packet control channel of a radio frequency signal having a varying signal strength as well as frames which have been transmitted with a predetermined transmission power level and by using a predetermined way of controlling the transmission power level, and
determining a reference level for automatic gain control of said signal on the basis of at least one frame immediately preceding a received radio block, and correcting the reference level on the basis of the signal strength measured during the reception of said at least one frame, the method further comprising:

calculating the running average by using filtering with a varying length.

¹²
~~31.~~ (Previously Presented) A method according to claim 1, the method further comprising:

using a wireless communication unit to receive said radio block and said frames transmitted by a base transceiver station of a packet switched communication network based on a cellular system.

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~~32.~~ (Previously Presented) A method according to claim ~~31~~¹², the method further comprising:

measuring the signal strength of the radio frequency signal received in said wireless communication unit, the radio frequency signal being analog, and correcting the signal gain on the basis of the determined reference level at predetermined intervals.

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~~33.~~ (Previously Presented) A device according to claim 14, wherein the device is a wireless communication unit arranged to receive said radio block and said frames transmitted by a base transceiver station of a packet switched communication network based on a cellular system.

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~~34.~~ (Currently Amended) A device according to claim 14, wherein the device further comprises:

means for measuring the signal strength of ~~an~~ the radio frequency signal received in said wireless communication unit, said radio frequency signal being analog, and

means for correcting the signal gain on the basis of the determined reference level at predetermined intervals.

35. (Cancelled)